Volvulus of the Cecum Occurring After Operation—Notes on Additional Etiological Factors and Therapy

ALLAN B. WILKINSON, M.D.,
FRANK M. MORGAN, M.D., and
WILBUR G. ROGERS, M.D., Glendale

VOLVULUS OF THE CECUM is a rare form of intestinal obstruction; it has been reported as the cause in from 0.1 per cent to 1.4 per cent of cases of obstruction.[1,3,4,5] The cause has been ascribed to excessively long right colon mesentery,[6] often long enough to permit free movement of the cecum and ascending colon to the mid-line or the left abdomen. In the obstructed cases, the rotation is always described as clockwise, with a fixed point (hepatic flexure or band adhesions) being the fulcrum of rotation.[7] Two possible additional etiological factors are suggested in the following case. Of interest also was the roentgen demonstration of the fulcral point of volvulus near the hepatic flexure.

REPORT OF A CASE

A 46-year-old white woman was examined because of vague "sticking pains" in the left side of the abdomen for the preceding two months and swelling of the lower extremities for five years. The patient had had cesarean section because of placenta previa at age 29. Upon physical examination a tender left upper abdominal mass was palpated and edema of the legs was noted. No abnormalities were noted in the urine and results of blood examination were within normal limits except that 5 per cent of the leukocytes were eosinophils. The sedimentation rate was 22 mm. in one hour (Wintrobe). Intravenous urography showed left hydronephrosis, which was confirmed by retrograde study. The condition was attributed to narrowing of the pyeloureteral junction, possibly associated with aberrant vessels. No intraperitoneal abnormality was noted during these studies. At operation with the patient in right lateral recumbency and a high kidney lift under the right flank, a position that was maintained for two and a half hours, the vessels were removed and pyeloplasty was done. The peritoneal cavity was not opened.

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The progress of the patient was normal for the first 48 hours after operation with normal peristalsis and only slight distention, but on the third postoperative day distention was noted in the lower abdomen. Bethanecol (Urecholine) 5 mg. subcutaneously was given once, then 1:4000 neostigmine, intramuscularly, 3 cc. given five times in 48 hours, and peristalsis became intermittent and painful. On the fourth day, distention had increased, but the temperature was 98.6° and the pulse rate 84. On the fifth and sixth days flatus and stool were passed after rectal irrigations, but there was still pronounced distention and cramping pain continued at intervals. Fluids were being administered parenterally and the urine output averaged 1,400 cc. a day. Vomiting did not occur. On the sixth day leukocytes numbered 10,500 per cu. mm., with 72 per cent polymorphonuclear cells, 9 per cent of them stab form. The total eosinophil count was 100 per cu. mm. Serum albumin was 3.4 gm. and globulin 1.9 per 100 cc. The nonprotein nitrogen content was 25 mg. per 100 cc. On the seventh day because of extreme meteorism, abdominal x-ray examination was carried out and the cecum was observed to be occupying the entire left side of the abdomen. A barium enema was given and the barium progressed to the upper ascending colon, where what appeared to be folds at a point of twist were diagnosed by the radiologist as volvulus of the cecum and ascending colon.

Operation was done immediately. The cecum and ascending colon, enormously distended, lay in the left lower abdomen and a retrocecal appendix lay against the left anterior parietes. The cecal wall, which was gangrenous, was perforated while attempt was being made to find a proper area for decompression with a suction trocar. Fecal spill of 2 to 3 ounces was removed on laparotomy sponges and by subsequent irrigation. Culture and sensitivity tests showed E. coli, and nonhemolytic streptococcus, sensitive to tetracycline but not to penicillin and streptomycin. This information was most valuable in aftercare. After evacuation and detorsion, the point of fulcrum for the volvulus was found near the hepatic flexure, the bowel there being held relatively immobile by omental bands attached to the old scar of cesarean section. The bowel had rotated clockwise about this structure at least 180°. Right colectomy with ileotransverse colostomy was done. Fifteen hundred cubic centimeters of banked blood

TABLE 1.—*Laboratory Data Indicating Response to Therapy After Operation to Free Volvulus of the Cecum*

	Postoperative Day			
	First	Second	Third	Fourth
Albumin per 100 cc	3.5	4.0	5.3	....
Globulin per 100 cc	1.9	1.2	1.4	....
Nonprotein nitrogen per 100 cc	38	24	....	....
Carbon dioxide combining power (mEq. per liter)	{83 (AM) / 73 (PM)}	63	53	....
Packed cell volume (per cent)	46	42	....	....
Potassium (mEq. per liter)	2.4	....	....	3.6

was administered during operation. A Harris tube was manipulated into the second portion of the duodenum in order to maintain decompression; 20 hours after operation it had reached the first part of the jejunum.

Postoperative therapy included use of salt-poor serum albumin, vitamins, potassium chloride and limitation of salt. Massive doses of penicillin and dihydrostreptomycin given in the first 36 hours after operation were discontinued and parenteral terramycin was substituted when sensitivity tests were completed. The patient remained asymptomatic after discharge from the hospital with excellent alimentary and urinary function, including return of the left kidney to normal and relief of former constipation.

This case has important etiological, diagnostic and therapeutic connotations. In addition to an exceptionally long right mesocolon with fixation at hepatic flexure, and an omental adhesion, the upward and inward pressure of the kidney lift for two and one-half hours, plus ileus which may follow any abdominal or retroperitoneal operation, caused further displacement of the mobile structure.

Hinshaw[2] said that no similar case was found in a recent review of colonic volvulus at a large metropolitan county hospital. Obviously a competent ileocecal valve contributed to the picture. Whether the administration of a peristaltigenic agent (neostigmine) contributed to the rotation and torsion is conjectural. The clinician must be alert to the possibility of such a postoperative complication in any case, whether the operation was abdominal or remote from the abdomen. A plain x-ray film of the abdomen and barium enema study are of value in any inadequately explained case of postoperative distention.

SUMMARY

Volvulus of the cecum with complete intestinal obstruction is a rare but fatal disease. It is due to an unusually mobile cecum and ascending colon with a normally placed, but exceptionally long, mesentary and some point of fixture about which clockwise rotation of the bowel may occur. The condition may also occur without complete obstruction.

Additional etiological or inducing factors are suggested, namely: (1) Mechanical pressure on the right flank; (2) postoperative ileus with initial displacement of loops of bowel by distention.

540 North Central Avenue, Glendale 3 (Wilkinson).

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Dermatomyositis Treated with Sodium Ethylenediamine-tetra-acetate

R. C. POLLOCK, M.D., San Bernardino

DERMATOMYOSITIS is a rare disease, but it has been quite well covered in medical publications. The present case is reported not as a rarity but because of the apparent benefits of a therapeutic agent which seems to bring up questions related to mineral metabolism in this disease.

REPORT OF A CASE

The patient, a 48-year-old, white, married woman, was first observed in December 1954. Two years previously she had first noticed aching of the hands. A year after that the hands became more uncomfortable and stiff, and she also had aching of the feet and back. These symptoms gradually became worse, and she had pains in most of her joints at one time or another, although none of the joints was swollen except for slight enlargement of the metacarpophalangeals. In cold weather the aching in the hands was worse and they would become pale and "tingle." The patient also noted weakness of the hands and arms.

The patient appeared well in general. The face, neck and upper chest were slightly flushed. No abnormality was noted in the heart or lungs. The blood pressure was 140/86 mm. of mercury. Results of abdominal, pelvic and rectal examinations were within normal limits. Brachial and radial pulses

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